COYOTE CREEK AT ROCKSPRING FLOOD PROTECTION PROJECT

Project Number: 402120

PROJECT CLOSE-OUT REPORT

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Santa Clara Valley
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Table of Contents

Introduction 1
- **Project History** 1
- **Project Development** 1
- **Project Description** 2

Project Development 3
- **Planning** 3
- **Design** 4

Construction 4
- **Construction Activities** 4

Conclusion 4

Appendices

Appendix A – Letter from the District to the Corps canceling the project

Introduction

Project History

The Coyote Creek at Rockspring flood protection project is located in the City of San Jose, in Santa Clara County, California. The purpose of the project was to plan, design, and construct facilities to provide flood protection for the Rockspring neighborhood. The area was first identified for flood protection in a 1973 Santa Clara Valley Water District (District) General Plan, but was not constructed due to higher priorities in the watershed.

In January 1997, the neighborhood suffered severe damages to approximately 25 apartment buildings and 52 new townhouses when Coyote Creek flooded in the vicinity of the Rockspring neighborhood. This event was estimated to be a 15-year event. The neighborhood was threatened again in February 1997 when Coyote Creek was within a foot of flooding the neighborhood.

After the Rockspring neighborhood was flooded in 1997, the District requested that the Corps investigate a solution to the problem under their Section 205 authority. Work under this authority provides for local protection from flooding by the construction or improvement of flood control structures such as levees, channels, and dams. Section 205 is part of the Corps' Continuing Authority Program, which is intended for small flood protection projects and does not require specific congressional authorization. It also limits the Federal share to $7 million for each project. Projects qualifying in the 205 program do not require individual Congressional authorization or appropriation which can save years and helps accelerate the completion of the project. Federal money can pay for all project components except for the purchase of lands, easements and rights-of-way, and soil disposal costs. In January 2000, the District and the Corps signed a Feasibility Study Cost Sharing Agreement (Agreement) initiating the project under the Section 205 authority.

Project Development

Under the Agreement with the District, the Corps included a Project Study Plan, which presents the specific responsibilities, guidelines, tasks, cost estimates and schedule for the feasibility phase. The purpose of this phase is to fully define problems and opportunities, describe and evaluate alternative plans, and fully describe a recommended project, while complying with NEPA. The feasibility phase is cost shared equally between the Corps and the District, and the District may provide up to one-half of their share (one quarter of the total study cost) with in-kind services instead of cash.

The study schedule, cost estimate, and cost allocation, as agreed to by the Corps and the District, specified a final report to be delivered by March 2002 at a total cost of $1.16 million. Half of the study cost ($580,000) would be funded by the District with cash (no in-kind services specified).

Project Description

The Corps began the project with their plan formulation process. It identifies where flow historically break out of the existing creek for various magnitudes of flood events. Breakout areas are often located in channel reaches where the capacity is lower than that for upstream reaches. Capacity may be restricted by existing channel conformation or by an obstacle such as a bridge or culvert. Once restricted reaches are identified, flood control measures are developed to increase the capacity of each restricted reach. The most effective flood damage reduction measure, which is feasible on an engineering, environmental, and economic basis, is sought for each reach.

A basic strategy used for the plan formulation rationale is to examine the low flow constraint locations, which are locations of diminished capacity. Structural measures are developed to increase the flows at that constraint point, going from the lower channel capacities upward to the higher-level channel capacities.

The Corps is required to consider the "No Action" as one of the alternatives in order to comply with the requirements of the National Environmental Policy Act (NEPA). With the No Action Plan, which is synonymous with the "Without Project Condition," it is assumed that no project would be implemented by the Federal Government or by local interests to achieve the planning objectives. The No Action Plan (without-project condition) forms the basis by or against which all other alternative plans are measured.

A number of flood reduction measures were considered during the early phase of study of Coyote Creek at Rockspring. These measures are either non-structural or structural. Structural measures are designed to reduce flooding and associated damages by altering the flow patterns (the water surface profile). Structural measures may include dams, channel modifications, and levees and floodwalls, which increase the capacity of the existing channel in order to contain higher flows within the channel. Non-structural measures are designed to prevent flood damages by modifying the buildings and structures within the floodplain. Non-structural measures may include evacuation, relocation, and may or may not involve modifications to existing structures within the floodplain.

By combining structural and non-structural measures to constitute comprehensive flood reduction, alternative plans were developed. Non-structural measures considered included the possible relocation of existing structures (e.g., the apartment building immediately adjacent to Coyote Creek); however, it was determined there were more effective structural alternatives, including the placement of a floodwall and setback levee to protect the area from flooding.

Two alternatives were identified to solve the flooding problems in the area of Rock Springs:

Alternative 1: This alternative would involve the construction of an embankment levee, with a sheet pile floodwall. This alternative would have a higher construction cost and would likely have higher mitigation costs, but would have lower real estate costs, than the setback levee alternative (described below).

Alternative 2: This alternative would involve the construction of a setback levee and floodwall. The setback levee would consist of a levee with a setback from the creek bank and a tieback floodwall at the south end.

Project Development

Planning

Before the Corps can design or construct either Alternative 1 or 2, a preliminary assessment had to be completed to determine whether the project had a high enough benefit to cost ratio (equal to or greater than one) for federal participation. During this initial phase of work, the following meetings/investigations/studies were completed:

- A public workshop/NEPA scoping meeting was held on June 29, 2000
- Survey maps were completed in the fall of 2000
- Geotechnical investigations were completed by URS on July 11, 2001
- "Without project" floodplain maps and review of existing hydrology were completed by Corps H&H staff on January 25, 2001
- Hazardous, toxic and radioactive waste (HTRW) investigation was completed by Innovative Technical Solutions, Inc. (ITSI) in January 2002
- Cultural resources investigations were completed by Corps Archaeologist in 2002
- Survey of red-legged frog habitat was conducted by Tetra Tech, Inc. in 2001
- Preliminary civil design drawings were prepared by Corps Civil staff
- Preliminary cost estimates were prepared by Corps Specifications and Cost Engineering staff
- Preliminary economic analysis was completed in September 2001

Estimated costs for median 1 percent level of protection (100-year) was estimated at $7.4 million; the estimated costs for median 4 percent level of protection (25-year) was estimated at $5.2 million. The estimates included construction, soft construction costs (includes inspectors, contractors, design effort, testing, etc.), mitigation, and real estate (preliminary estimate) costs (See Appendix G).

Based on the review of the information gathered to date, it was determined that there was no Federal interest in the subject study at the time. The economic evaluation found that the benefits, i.e., the reduction in flood damages, were not significant enough to justify the costs of improvements. In the fall of 2001, an economic re-evaluation was performed which (1) accounted for additional structures not included in the previous evaluation and (2) raised the cost per square foot to its highest rate allowable. The resulting flood damages, while higher than what was found previously, were still not large enough to offset the costs of any of the project alternatives. Federal participation in flood control requires the demonstration of positive net benefits or a benefit-to-cost ratio of 1.0 or greater. Flood control improvements at Rockspring would clearly cost more than the expected reduction in flood damages. The benefit-to-cost ratio was calculated at 0.55 to 1, far less than what is required.

Design

Because of the preliminary assessment, the project did not move forward into the design phase.

Construction

Construction Activities

Because of the preliminary assessment, the project did not move forward into the construction phase.

Conclusion

In February 2002, the Corps notified the District that the preliminary analysis from their feasibility study indicated that there did not appear to be an economically justified flood damage reduction alternative for this project. The preliminary benefit-to-cost (B/C) ratio was less than 1.0, which did not meet the minimum requirements to be in the Federal interest. The Corps did not expect the B/C ratio to improve enough with further refinement. Therefore, staff recommended that the agreement between the District and the Corps be cancelled and the project be put on hold.

Project Team/Owner Meetings

Lessons Learned Meeting Minutes

A lessons learned meeting with George Fowler, Scott Katric, and Steve Bui was conducted on August 25, 2003. The meeting minutes were sent to the Project Owner, project team members, and project file. Refer to the Appendix for copy of the meeting minutes.

Project Owner Customer Satisfaction Survey
(QMS Document F82101, Revision A, 9/12/02)

A survey was completed by Marc Klemencic on August 29, 2003. Refer to the Appendix for a copy of the survey.

Filing and Miscellaneous

Accounting and Budgeting

The Agreement between the District and the Corps has been cancelled based on the letter sent from Stanley Williams to Lieutenant Colonel Mike McCormick on January 6, 2003 (Appendix A).

In order to financially "close out" the study with the Corps, the District needs to pay a $4,755.34 outstanding balance that is owed to the Corps. This amount represents the difference between the required $258,005.34 non-Federal study share and the $253,250 of already contributed non-Federal funds. The District is in the process of paying this balance.

Project Files

Project files and a CD copy of electronic files were archived and delivered to Records Management Center. In addition, a copy of this Project Close-Out Report is archived along with the project files and delivered to the Records Management Center.